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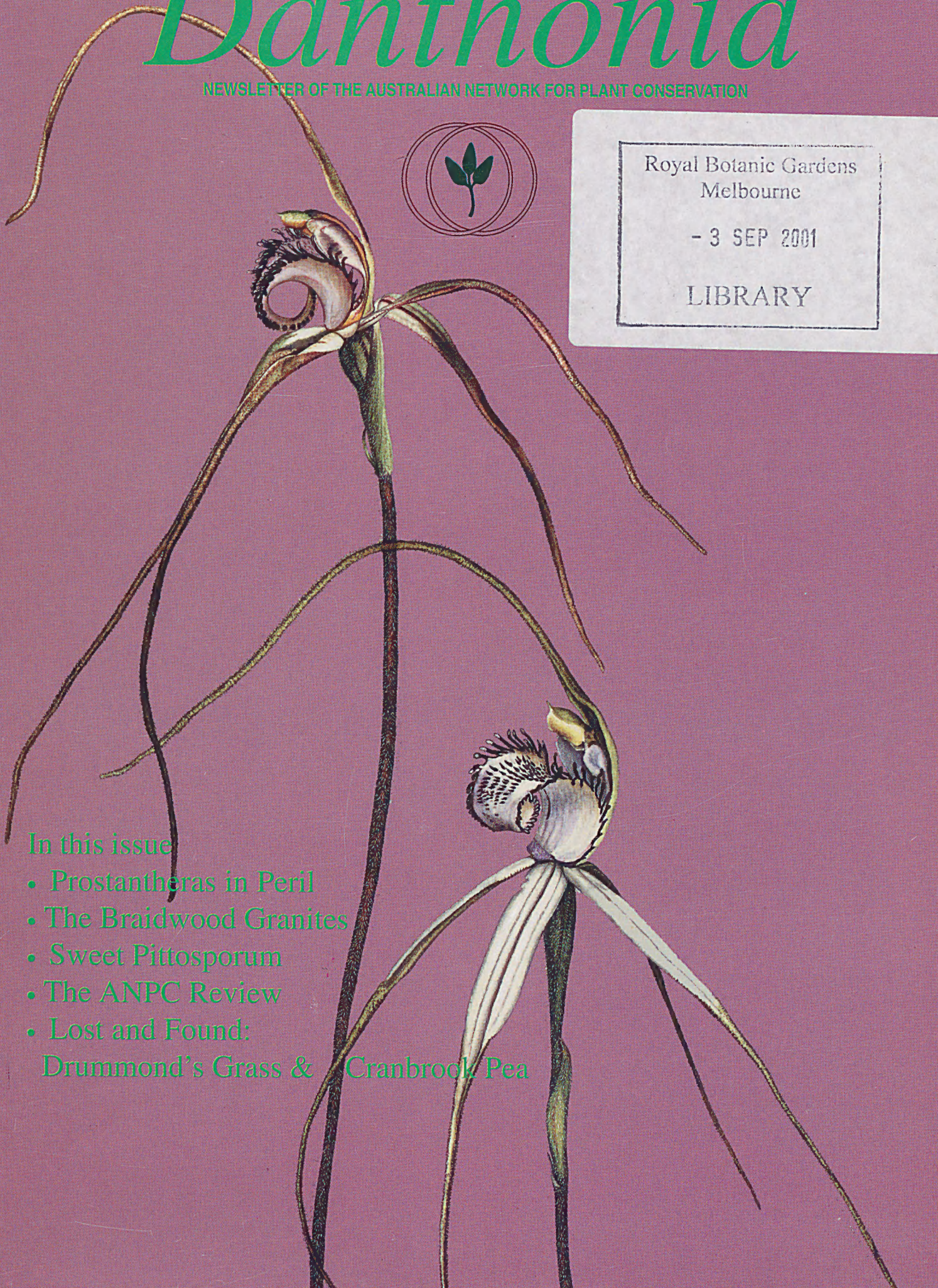
Danthonia

NEWSLETTER OF THE AUSTRALIAN NETWORK FOR PLANT CONSERVATION



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Regular Features

Danthonia

Editors

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Thanks to: Barry Brown, Emma Lewin, Lyn Meredith, Jan Wilson, Susan Siegenthaler.

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Cover Illustration:
Kilsyth South Spider Orchid
Ruth Jackson - Copyright

ANPC Inc. Mission Statement

"To promote and develop plant conservation in Australia."

Contributing to *Danthonia*

Danthonia is a forum for information exchange for all those involved in plant conservation: please use it to share your work with others. Articles, information snippets, details of new publications and diary dates are all welcome. The deadline for the September 2001 issue is Tuesday 15th August, 2001.

Please send typed or handwritten articles, no more than 2 A4 pages, to Jeanette Mill by fax, mail, e-mail, or diskette. If sending by e-mail, please send in the body of the text or as an attachment in Word or Rich Text Format (rtf) to:
anpc@anbg.gov.au

Illustrations or logos are always needed too, in the form of clear prints, slides or drawings.

Prostantheras in peril

Chris Lacey
Threatened Species Officer NSW National Parks and Wildlife Service

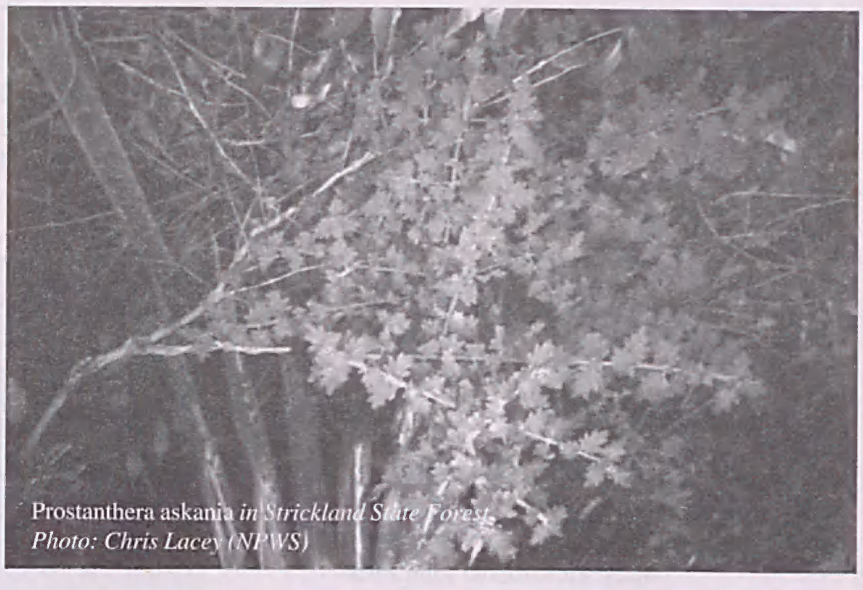
Recent surveys and investigations by the NSW NPWS, in cooperation with the Gosford Branch of the Australian Plants Society, has furthered understanding of the distribution and conservation status of two endangered *Prostantheras* on the Central Coast of NSW: the Tranquillity Mintbush *(Prostanthera askania)* and the Somersby Mintbush *(Prostanthera junonis)*. Both species are endemic to the Central Coast of NSW in the Gosford and Wyong Local Government Areas and are listed at national and state levels as endangered under the Commonwealth *Environment Protection & Biodiversity Conservation Act* 1999 the *Threatened Species Conservation Act (NSW)* 1995, respectively.

The Tranquillity Mintbush

The Tranquillity Mintbush is an erect, openly branched shrub that grows from 1-3m high (Conn 1997). The branches and leaves, which are strongly aromatic, are densely covered with long white hairs, the leaves are a dusty green colour and the flowers, which occur for a short period during Spring, are a pale mauve to mauve colour. Before its formal description by Conn (1997), the species was known as *Prostanthera sp 'G'* (Harden 1992), *Prostanthera sp 'Strickland State Forest* (TSC Act), and *Prostanthera incisa var pubescens*.

Species Review

Following the discovery of two new populations in 2000 by David Tierney (Wyong Shire Council) and surveys by Adam Fawcett & Alf Britton (State Forests, Hunter Region), the NPWS has undertaken a 'species review' to consolidate and build on information regarding the species' distribution, population sizes, habitat requirements and threatening processes. Thus, in December 2000-January 2001, a detailed investigation commenced, involving literature and herbarium reviews of known collections and sites, mapping and tenure analysis to locate and arrange site access and preparation of a habitat model indicative of the likely pre-1750 distribution (NPWS 2000a). Additionally, a targeted field survey program was undertaken by NPWS Botanist, Christopher Pennay in cooperation with local botanists familiar with several of the known sites.



Prostanthera askania *in Strickland State Forest.*
Photo: Chris Lacey (NPWS)

Summary of Review Findings

Six populations of *Prostanthera askania*, with densities ranging from one individual to 200 individuals over a total area of 12-15 hectares, are now known to exist between Ourimbah and Fountaindale. Five populations, recorded during previous surveys, could not be relocated and are thought to have been affected by expansion of urban development into areas of former likely habitat.

Although some sites are located within Strickland State Forest, The Forest of Tranquillity and on lands managed by Gosford and Wyong Councils, none of the known sites are located within a conservation reserve.

Previously recorded habitat descriptions (Harden 1992, Conn 1997) were confirmed by using systematic collection methods consistent with recent vegetation classification, survey and mapping techniques for the Lower Hunter & Central Coast region (NPWS 2000b). The species was recorded in a new vegetation community-type, being a transition community between a drier Spotted Gum *(Corymbia maculata)* forest and a moist Blue Gum *(Eucalyptus saligna)* forest (Chris Pennay, NSW NPWS pers.obs).

Further, *Prostanthera askania* appears to occupy a disturbance niche in tall moist forest-types (*E. saligna, E. pilularis, Syncarpia glomulifera*) bordering rainforest (*Cryptocarya glaucescens, Ceropetalum apelatum, Doryphora sassafras*).This niche is also occupied by invasive weeds such as Lantana (*Lantana camara*) and Asparagus Fern (*Protoasparagus aethiopicus*) which are also present at most of the known sites, presenting a significant threat to the species in the medium-long term.

(continued from page 2)

Assessment Guidelines

Information collected during the review is currently being compiled into a species profile and environmental assessment guidelines, to assist government and the community with management of the known populations of the Tranquility Mintbush. Whilst a Recovery Plan will eventually be prepared by the NPWS in accordance with the TSC Act, for the interim, bush regeneration and weed management actions have commenced or are planned for several sites in the near future.

Prostanthera junonis.
Photo: Chris Lacey (NPWS)

The Somersby Mintbush

The Somersby Mintbush is a low spreading shrub that grows from 0.1-0.3m (Conn 1997). The leaves and stems are non-aromatic, the pale mauve to white flowers occur singly during late Spring-early Summer. Named in honour of June Gay, a committed volunteer for the Sydney Royal Botanic Garden for many years, the species was known as *Prostanthera sp '8'* (Harden 1992) and *Prostanthera sp 'Somersby'* (TSC Act) before its formal description by Conn (1997).

Recovery Plan Approved

A recovery program for the Somersby Mintbush commenced in 1997, and a Recovery Plan (prepared in accordance with the TSC Act 1995) was recently approved by the NSW Minister for the Environment (NPWS 2000c). At the time of the Somersby Mintbush Recovery Plan's approval (November 2000), five of the nine known populations were subject to industrial and agricultural development pressures on the Somersby Plateau.

The Recovery Plan identifies areas of likely habitat based upon preliminary habitat mapping and a predictive model for the species (NPWS, 2000a) and provides the history of the actions implemented prior to the plan's approval. (For a copy of the Recovery Plan, see the NPWS website at: www.npws.nsw.gov.au.)

The need to undertake further surveys in areas of likely habitat have been identified, so that previous surveys undertaken during the plan's preparation throughout 1998-2000 can be supplemented (Chapter 12 of the recovery plan).The surveys are intended to establish the full extent of the species' distribution, to understand the significance and importance of the known populations to the species as a whole and to eventually identify habitat that is critical to the survival of the species.

New Populations Discovered

As many sites had not been revisited since the initial surveys in 1997, a thorough review of the known populations and establishment of permanent plots for long-term monitoring of population trends were conducted.

Three new populations of the Somersby Mintbush were located within the existing species range and southern concentration of species distribution during the 2000 survey program, taking the known populations to a total of 12. The extent of occurrence and population sizes of previously known sites were expanded when five new 'sub-populations' were also discovered during the full population census.

Summary of Review Findings

Whilst development pressures continue to threaten three populations, one of the new populations and two of the new 'sub-populations' are located within Brisbane Water National Park.

One isolated population appeared to have suffered a 50% decline since the original 1997 survey. However, another population, which had been reduced to less than 20 individuals due to habitat clearance in 1995, has recovered to more than 150 individuals.

Domestic goats have been introduced to one of the populations and feral deer appear to be grazing on the current largest population. This information has been reported to the Somersby Mintbush Recovery Team and will be utilised in the development and implementation of on-ground actions to conserve and manage the species.

Thanks to APS Volunteers

The success of the Somersby Mintbush annual survey program has been greatly assisted by volunteers from the Australian Plants Society (Central Coast Branch) who, once again, have given generously of their time each year since 1998. Without their continued support of the survey program, these new populations and sub-populations may have gone un-noticed for many years or may have been destroyed before being discovered.

For further information contact the NSW NPWS on 02 95856678, or go to the NSW NPWS web site: www.npws.nsw.gov.au

(continued on page 4)

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Acknowledgments

NPWS would like to acknowledge the following: Chris Pennay, Danny O'Brien, Adam Fawcett, Robert Payne, Ross Wellington, Robin Meldrum, Algis Sutas, Peter Cowper, Jeff Johnson, Audrey Taggert, and the many volunteers from the Australian Plants Society (Central Coast Branch).

National Forum:

Taking Care of the Bush -

Nature Conservation on Private Land

By all accounts the National Forum held between 21 - 23 March 2001was a rewarding success for participants. One aspect of the Forum was the recognition of indigenous values in land conservation which generated considerable discussion and interest.

Some of the key points discussed were:

⇨importance of partnerships, diversity of programs, flexibility in approaches and incentives

⇨need to extend indigenous participation through cultural learning

⇨scope for private land conservation covers whole continent

⇨expand the markets for sale of bushland as bushland, ecosystem services, and for philanthropy and corporate investment in conservation

Challenges identified for the coming year:

⇨to build indigenous involvement in private land conservation

⇨discovery of markets - communicating common purposes, developing markets for ecosystem services.

⇨develop accounting and reporting of progress for private land conservation programs.

⇨engage local government and expand its role.

For more information contact Kim Ramsay via the following:

Email: kim.ramsay@ntwa.com.au.

Website: www.ntwa.com.au

Source: NTWA

Kilsyth South Spider Orchid granted 'threatened species' status.

On February 15th this year, one of Australia's rarest orchid species – the Kilsyth South Spider Orchid (*Caladenia* sp. aff. *venusta*)- was gazetted as threatened under Victoria's Flora and Fauna Guarantee Act 1988.

The only known population of the Kilsyth South Spider Orchid was discovered by members of the Montrose Environment Group in 1991 and subsequently identified as a new species. This small population of 16 individuals was dispersed over less than one acre in an area rich in orchid species. Regular monitoring of the population over the years has shown an increase in numbers, with 24 individuals present to date.

Because of the rarity of this species, it has also been nominated for listing as critically endangered under the Commonwealth Environment Protection and Biodiversity Conservation Act (1999).

If you are able to offer advice or assistance concerning the on-going protection, conservation or recovery of the Kilsyth South Spider Orchid, please contact:

Ms Helen Moss, 264 Maroodah Highway, Croydon, VIC, 3136. Phone: (03) 9725 7830.

New Voice for the world's largest Conservation organisation

The IUCN (The World Conservation Union), umbrella organisation of some 950 NGOs, governmental agencies, and state members, announced the appointment of its new DG, Mr Achim Steiner. Steiner is 39 years old and is one of the youngest ever Director Generals of the organisation. Brazilian born, German by nationality, and educated at Oxford University.

He joins IUCN having led a three-year consultation process which resulted in the global launch last November of Dams and Development: the Report of the World Commission on Dams. This experience, together with his work with multilateral organisations, government, and non-government organisations, and the private sector, has equipped Mr Steiner with strong political and diplomatic skills which are central to IUCN's position as a forum for diverse interests.

In announcing the appointment IUCN's President, Yolanda Kakabadse, stressed that Achim Steiner's understanding of conservation science, biodiversity and ecosystem management has been moulded by practical work in the field, as well as by work with policy development and international conventions.

Source: IUCN Media Release

Revegetating the Braidwood Granites

Rebecca Cole - Upper Shoalhaven Landcare Coordinator

The Braidwood granite basin surrounding Braidwood in South-East NSW, is approximately 40,000ha in area, and has less than 100ha of remnant vegetation remaining. For seven years members of the Braidwood Rural and Durran Durra Landcare groups, in the Upper Shoalhaven Catchment, have undertaken a number of successful revegetation projects including Trees on Rocky Knobs, Braidwood-Warri Revegetation, and Braidwood Granites Landscape Restoration Project.

Project aims and objectives

The broad aims of these projects have been, and continue to be:

⇨ increase the cover of native vegetation on the Braidwood Granites

⇨ reduce the susceptibility of the area to wind and water erosion

⇨ promote the benefits of native vegetation in a sustainable landscape.

A significant portion of the Braidwood granites is overlain with aeolian sand dunes and sheets, rendering these areas highly susceptible to erosion, particularly during drought. The long-term vision of the project is the re-establishment of a mosaic of native vegetation across the granite basin that will become an integral part of a sustainable farming landscape. Revegetation can create a more productive farming landscape through increased resilience to natural disturbances such as drought and flood.

Revegetation techniques

Methods undertaken by landholders involved a mixture of tubestock planting and direct seeding on rocky knobs, ridges and gullies - the seed is sourced from a variety of local species. The seed and tubestock are specifically mixed and planted to replicate the area's existing remnant vegetation and its suite of species. In gullies and wet areas species being replanted include: *Eucalyptus aggregata* and *Leptospermum obovatum*, whilst ridges and exposed sites include *Acacia decurrens* and *Hakea sericea*.

The results of these projects can now be seen when travelling along the Kings Highway and the Nerriga Road. Casual monitoring by landholders involved in the revegetation projects of the sites has indicated an increase in birds and reptiles numbers, including smaller birds, previously absent from the area, and the nesting of ducks, plovers and quails and increasing habitat for frogs, reptiles and insects. Other positive effects of local revegetation include increased grass cover on rocky knobs, a reduction in the volume and velocity of surface water, decreased soil erosion caused by wind, improvements to pasture and provision of wind protection to livestock.

Landholder commitment

The commitment by landholders to revegetate the Braidwood granites is continually increasing with more landholders participating in the project every year. Tree planting and direct seeding works are carried out in Spring and Autumn, and new volunteers are always welcome.

For more information about the revegetation projects of Landcare groups in the Upper Shoalhaven Catchment, or community tree planting days, please contact Rebecca Cole (Upper Shoalhaven Landcare Coordinator) Ph.02 4842 2594, Email: rgcole@dlwc.nsw.gov.au

A Cry for Help from Norfolk Island

Ipomoea cairica or Morning Glory has a palmate leaf and a mauve flower. Native to tropical Africa and Asia it is becoming a major problem in the Norfolk Island National Park and the Botanic Garden where it creates over 50 foot high curtains covering the tops of even the tallest trees. Could anyone with information regarding its control please contact: Margaret Christian (Senior Ranger), Norfolk Island National Park.
Email: margaret.christian@ea.gov.au. PO Box 310, Norfolk Island, 2899, NSW, Australia.

Sweet Pittosporum: not so sweet

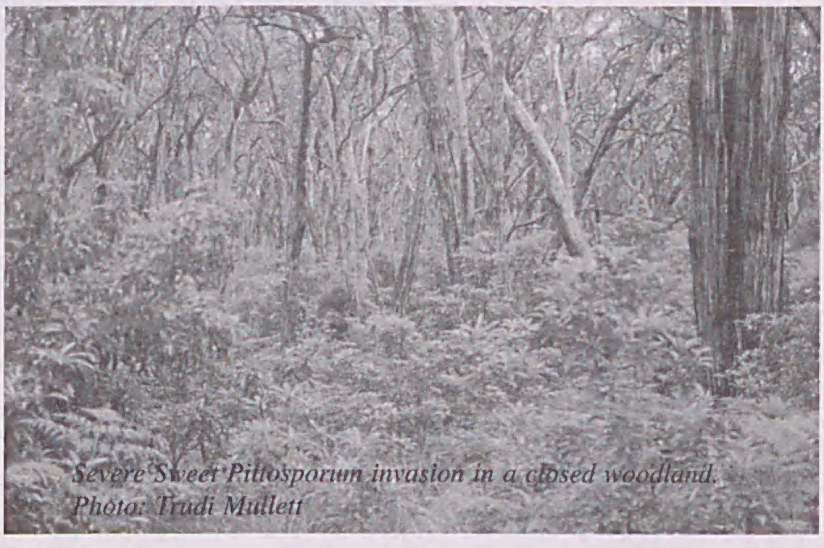
Trudi L. Mullett
CRC Weed Management Systems and Centre for Plant Biodiversity Research

Sweet Pittosporum (*Pittosporum undulatum* Vent. Pittosporaceae) is a small tree native to the wet forests and rainforest communities of south east Australia. Its natural geographic range occurs seawards of the Great Dividing Range east of Westernport Bay (Vic), and north to the New South Wales-Queensland border region.

In many situations Sweet Pittosporum also functions as a serious environmental weed in habitats both within and beyond its natural geographic range. The issue is complicated since its dual native and weedy status can cause difficulties with weed management initiatives, and because of its key ecological role in habitats including the rare dry rainforest (limestone) community in Victoria (listed under Flora and Fauna Guarantee Act 1988).

Mechanisms of spread

Like most of Australia's environmental weed flora, invasive populations of Sweet Pittosporum originated from ornamental plantings. The species has long been a garden favourite in south east Australia with its densely-foliaged canopy, fragrant creamy-white flowers and bright displays of orange fruit. European Blackbirds, Pied Currawongs and other fruit-eating bird species spread Sweet Pittosporum seed from gardens and other cultivated settings into remnant vegetation. Invasion has been severe in the drier forest types where natural fire regimes have been suppressed - this has assisted the establishment of the fire-sensitive Pittosporum to the detriment of fire-adapted native species.



Severe Sweet Pittosporum invasion in a closed woodland. Photo: Trudi Mullett

Range

Sweet Pittosporum has invaded a diverse range of vegetation types beyond its natural range in Victoria and New South Wales including heathlands, heathy woodlands, grassy woodlands, dry sclerophyll forests, wet sclerophyll forests, coastal and riparian communities. It has invaded native vegetation in Tasmania, South Australia and the south west of Western Australia and occurs on numerous Australian islands (King, Norfolk and Lord Howe Islands); it is also a serious weed of many other continents and islands beyond Australia.

Seed dispersal by birds mean Sweet Pittosporum invasion is typically in a clumped pattern that generally centres on eucalypts or other trees and shrubs. At established invasion sites, radiating clumps of Sweet Pittosporum may coalesce to form dense stands. The deep shade cast by the dense canopy substantially reduces light infiltration, contributes to changes in microclimatic conditions and displaces some native species. Attributes of the species' litter-fall further alter the microclimate beneath the Sweet Pittosporum canopy. Other likely changes to ecosystem properties and processes include composition, abundance and combustibility of fuels, and the cycling and availability of nutrients.

Impact and control

The impact on biodiversity is significant with reductions in the richness and cover, abundance of native plant species, and homogenisation of invaded sites. The associated simplification of habitat resources is also likely to impose a negative effect on native faunal diversity. Substantial community-level changes of the scale and severity typical of Sweet Pittosporum invasion also influence the rate and direction of community succession.

Successful control programs integrate a range of methods that are targeted to suit the characteristics of the invader and the invaded community. A range of control techniques, including herbicide application, physical removal and burning, are available to manage Sweet Pittosporum invasions. An on-going commitment to control and management is required to prevent reinvasion by Sweet Pittosporum or other weeds. It is important that management is specifically targeted at

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sites within this species' natural range, where it may both be playing an important role in its indigenous habitat and behaving as an environmental weed.

Invasion of natural ecosystems by native plant species is an emerging conservation problem throughout Australia with at least 300 species of Australian plants being naturalised in Victoria, South Australia, and Western Australia. Most of these species are trees and shrubs and this may be more a reflection of past gardening trends than the comparative invasiveness of Australian trees and shrubs over other lifeforms. More native species representing a range of lifeform groups are expected to become weedy in the future. Planting local indigenous rather than broad native species is an important step towards reducing the future incidence and impact of native weeds.

Please note: Weed Society of Victoria's Symposium on Native Australian Plants as Weeds - proceedings are in Plant Protection Quarterly, 2001.
Phone/fax (03) 9576 2949
Email: secwssv@surf.net.au
Website: http://home.vicnet.net.au/~weedsoc

Biodiversity Action Plan

As the Australian Government is now reviewing the National Biodiversity Strategy and developing 5 year targets for the next planning cycle, it is interesting to note how the UK is going.

Of interest is the UK Species Champions program, where companies can sponsor the recovery of one or more threatened species. This is a useful mechanism to engage the corporate sector in implementing recovery plans of threatened species listed under the EPBC Act.

Source: Community Biodiversity Network

Earth Alive! Biodiversity Month and National Threatened Species Day

How you can get involved

Earth Alive! Biodiversity Month and National Threatened Species Day 2001 are on again in September. Biodiversity Month provides a national focus to celebrate and promote your local biodiversity, create media interest in a local event or project. It increases your community's understanding and involvement in conservation projects in your region.

This year, Biodiversity Month is being organised with National Threatened Species Day, held every year on 7 September to mark the date in 1936 that the last known Tasmanian Tiger died. It aims to raise awareness about Australia's threatened species and encourages all people to get involved in conservation.

Earth Alive! Biodiversity Month this year will be encouraging the community to get their *'Hands on for Habitat'* and create a garden haven for wildlife.

Environmental groups and organisations in Australia will be organising events aimed at educating and involving anyone willing to learn about biodiversity. This year the Community Biodiversity Network and the Threatened Species Network have developed a one-stop-shop Biodiversity Month/National Threatened Species Day Registration Kit. The Kit includes a product order form, which enables groups taking part to access a broad range of free education and promotional materials.

To receive a copy of the Kit or for more information contact the Community Biodiversity Network.
Ph: (02) 9262 4743, Email: earthalive@cbn.org.au.
For more information about National Threatened Species Day, contact the Threatened Species Network on (02) 9281 5515, or phone the State TSN Coordinator. Groups can also register events and order products on-line through the Biodiversity Month web site at: www.cbn.org.au/projects/earthalive2001

ANPC National Conference

In late 2002 the ANPC will be holding its national conference. The location will be Geelong in Victoria, and is supported by Geelong City Council and Geelong Botanic Gardens. It promises to be bigger than ever, so stay tuned to *Danthonia* and the website for further information.
Contact details.
National Office: Ph. 02 6250 9509 Fax 02 6250 9528
Website: http:// /www.anbg.gov.au/anpc

The ANPC Review

Jeanette Mill ANPC National Coordinator

The ANPC has recently undergone an independent review by a private consultant (Catherine Potter), as part of the regular review cycle for all major Natural Heritage Trust projects. The purpose was to review the progress of the ANPC and make recommendations for future directions with respect to support from the Endangered Species Program. The reviewer conducted consultations with a range of stakeholders, and produced an extensive report. (***Major review outcomes are outlined below.***)

ANPC success

The ANPC has been very successful in facilitating the exchange of information between practitioners, scientists, community and other stakeholders on current plant conservation science, research and management. If the ANPC were to cease to exist, valuable flows of information would be lost.

The development of best practice guidelines for plant conservation actions including the *Guidelines for the Translocation of Threatened Plants in Australia* and the *Germplasm Conservation Guidelines for Australia* has been one of the most effective and value-adding areas of activity undertaken by the ANPC. This area of activity is unique to the Network and is a distinct niche due to its network of specialists and practitioners. The ANPC should update existing guidelines and undertake analysis of stakeholder interest in and priority for future guidelines.

The ANPC plays a unique and valuable role in plant conservation training. The Plant Conservation Techniques Courses are considered highly by people in the discipline, and have been described as invaluable, highly beneficial, extremely useful, inspiring and unique. They are seen as a useful bridge between scientists, practitioners and the community and are one of the ANPC's greatest achievements. There is scope for future development in this area. ANPC has identified the need for development of a plant conservation techniques training manual. The ANPC should continue to receive strong support from the NHT and other funding bodies for its work in plant conservation techniques training.

The newsletter *Danthonia* is generally interesting and useful, and its production should be continued. There are areas in which it could be more targeted, appealing, streamlined, pithy and cost-effective. The recent introduction of a full-colour cover and lower-cost paper stock are moves in this direction.

The outcomes of ANPC networking and information exchange are not always obvious or easy to define but should not be under-estimated. Outcomes such as sharing and comparing ideas and actions, preventing duplication of efforts, ensuring best value in conservation projects and improving quality of on-ground plant conservation techniques, have all been achieved as a result of ANPC activities.

Networking and regional presence

ANPC has been very effective in building a strong, active network in some areas. After ten years of operation the Network represents a strategic membership that continues to grow, however it could sustain a larger membership with better representation within some target groups. The ANPC should undertake a concerted membership drive, targeting groups such as local councils, industry and the scientific community, as well as regional community stakeholders.

ANPC membership includes many of Australia's most eminent plant conservation scientists and practitioners. Members of its Executive Committee have been invited to contribute to international forums on plant conservation and are on NHT assessment panels. There is scope for the ANPC to further develop its profile within Australia as a professional source of advice on plant conservation policy, programs and agenda-setting.

The ANPC is contributing to on-ground plant conservation actions in four main regions where there is active volunteer coordination, but is keen to establish additional regional action. There is scope to strengthen work in this arena, integrating players and creating links for on-ground action. The focus for ANPC regional development should be on facilitating the delivery of plant conservation science knowledge into application: linking the information sharing component of ANPC to hands-on activities such as training workshops and on-ground plant conservation actions. Regional activity is dependent on having committed volunteers in the regions. The ANPC requires funding support to employ a regional action facilitator who can focus on initiating greater volunteer activity in priority regions.

ANPC's mission statement and objectives identify its broad aims. However a strategic plan needs to be developed that looks at these objectives and determines actions required for implementation. The development of a strategic plan and an associated business prospectus should be high priorities for the seeking of funds.

Member organisations of the ANPC provide substantial in-kind support in terms of office infrastructure, administration, specialist services and skills, which

(Continued from page 8)
significantly supplement cash income.
The ANPC has:

- achieved the objectives as set out in its contracts with Environment Australia
- implemented the 1998 review recommendations of the Endangered Species Advisory Committee Plant Working Group.

The work of the ANPC is focused on threatened species but is also applicable more broadly to the remnant vegetation conservation objectives of the NHT Bushcare program and so is deserving of funding from this program.

The ANPC has been a cost-effective investment of government grant funds. It has achieved a large amount despite its modest funding mainly due to resourcefulness, and the active contribution of volunteers. The ANPC has recognised the need for development in all of the areas identified in this review but has lacked the funding to initiate these. It could achieve much more with greater human and financial resources, and continuity of funding.

1st International Orchid Conservation Congress - Orchid Conservation Techniques Course

A pre-conference, high intensity course will be run over three days prior to the congress (September 20-22) to provide specialised training in orchid conservation techniques. It will cover axenic propagation, seed germination, care of seedlings, mycorrhizas, microscopy, recovery methods, genetics, pollination and seeds. The course will consist of hands-on laboratory training and lectures by experts in the field. A detailed manual will be provided. The cost is $A450.00. **Numbers are strictly limited so contact the Conference Organisers ASAP.**

Congress Secretariat, International Orchid Conservation Congress.
Congress West Pty Ltd
PO Box 1248
West Perth 6872
Western Australia
Phone from Australia: (08) 9322 6906
Fax from Australia (08) 9322 1734
International phone: 618 9322 6906
International fax: 618 9322 1734
Website: http://www.bgpa.wa.gov.au
Note: Course is cosponsored by ANPC.

ANPC Membership Drive

How you can help

If the ANPC can attract 100 new corporate members, this will raise an extra $40, 000 pa. 100 new community organisations will raise an additional $7000. This extra income will increase ANPC's self-sustainability, and allow the further development of initiatives such as training courses (*'one of ANPC's greatest achievements'* ANPC Review, 2001), and more conservation guidelines.
The benefits of corporate or community group membership are:
⇨a service to your staff/members, providing essential information on cutting edge issues, solutions, and opportunities
⇨communication of your work to a global audience
⇨receive up to seven copies of *Danthonia* posted directly to nominated staff or branches
⇨direct links to conservation scientists and practitioners, *'ANPC membership includes many of Australia's most eminent plant conservation scientists and practitioners. Professional members of its Executive Committee have been invited to contribute to international forums on plant conservation.'* (ANPC Review)
⇨raising the profile and supporting plant conservation in Australia and overseas
⇨ access to similar organisations planning and undertaking effective plant conservation
⇨contribute to the formulation of nationally consistent direction, approaches and best practice guidelines
⇨ become informed, involved and participate in developing and leading outstanding initiatives such as the Plant Conservation Techniques Course
⇨use the biennial national conferences as an opportunity to challenge, review and strategically focus your plant conservation objectives in line with what is happening nationally and internationally
⇨be a part of a nation-wide voice for plant conservation
⇨avoid institutional isolation, by working within a national and global context
⇨help lobby for conservation outcomes.

By joining up any organisations you are affiliated with. Use the membership form contained in *Danthonia*. Give *Danthonia* to prospective members. Contact the National Office for additional copies.

Credit card payments can now be accepted.

Lost & found - Drummond's Grass and Cranbrook Pea

Sarah Barrett, Department of Conservation and Land Management WA

In 1989 some 94 plant taxa were listed as presumed extinct on the Department of Conservation and Land Management's (CALM) Priority Flora list for Western Australia. This had decreased to 53 in 1991, and to 23 in 1998 (Brown et. al. 1998). Reduction has occurred for a range of reasons including taxonomic research, thorough area based surveys and searches, or good luck.

Drummond's grass

Drummond's Grass (*Deyeuxia drummondii*) was among the species listed as presumed extinct in 1991 as it had not been collected since 1867. The type specimen was originally collected by the botanist and explorer James Drummond in 1854 somewhere between Perth and the south coast of WA. Shiny mineral fragments around the roots of this specimen suggested that the specimen had been collected from a rock outcrop, perhaps from the Porongurup Range near Albany.

Thorough searches of the Porongurup Range during a biological survey of mountains between 1994-96 in the south coast region of Western Australia failed to locate the grass. A sterile specimen from this survey submitted to grass expert Terry MacFarlane (CALM, Manjimup) led him to believe it could be the elusive Drummond's grass. In November 1997, 16 individuals of *Deyeuxia drummondii* were located by CALM staff on the summit of Ellen Peak (1000m ASL) in the Stirling Range National Park.

Cranbrook Pea west of Tunney, WA. Bethea Loudon (L) CALM, Wendy Bradshaw (R) Bushcare. Photo: Sarah Barrett

New populations

Since 1997 several new populations totalling several hundred plants have been found, in similar habitat growing on rocky ledges on mountain summits. Seed collections have been made by Anne Cochrane from CALM's Threatened Flora Seed Centre. Through trial and error the best time for seed collection was determined, as were techniques to stimulate germination (Cochrane and Barrett 2001). In particular removal of the covering structures (palea and lemma) facilitated germination and greater than 80% germination was achieved in this manner. In 2000, due to considerable survey efforts the species was downgraded from critically endangered to vulnerable.

Cranbrook pea

The Cranbrook Pea (*Nemcia lehmannii*), originally described as a *Gastrolobium*, was collected by the botanist Ludovic Preiss in 1841 in the 'interior' and again by James Drummond in 1843. There was a single collection in 1875 and three from 1916-18. Their localities ranged from Cranbrook to the Stirling Range and the Blackwood River.

In November 2000, a specimen of a pea species was collected by Bushcare Support Officer (Greening Australia) Wendy Bradshaw, who thought it most resembled the presumed extinct *Nemcia lehmannii*. In January 2001 the specimen was brought to the Albany Regional Herbarium for identification. The specimen was examined by Rare Flora Officer, Sarah Barrett, whose first thought was it was also the Cranbrook Pea. (Sarah had failed to relocate this species during the earlier mountain survey).

Identity confirmed

The specimen was forwarded to Papillionaceae (Fabaceae) expert Dr Mike Crisp (ANU) who confirmed its identity within days. (Mike had also searched for the species in the Stirling Range area.) This specimen was found further to the north - just west of the small town of Tunney on private property - and a follow-up survey located some 90 plants on a lateritic breakaway. More recently Wendy Bradshaw found a second population of 19 plants located on a road verge not far from the original site.

There is a twist to the story - *Nemcia lehmannii* was to be reborn as *Gastrolobium lehmannii* - following a full taxonomic revision of *Gastrolobium* by Greg Chandler to be submitted shortly to *Australian Systematic Botany* which places *N. lehmanii* back in the genus *Gastrolobium*. While further survey and collections may rediscover more presumed extinct species, the challenge is to prevent those taxa listed as critically endangered from becoming extinct.

For information contact: sarahba@calm.wa.gov.au

References

Barrett S, Gillen K (1997). Mountain protected areas of south Western Australia. PARKS 7 pp 35-42.

Brown AB, Thomson-Dans C and Marchant N (1998). Western Australia's Threatened Flora. CALM Perth.

Cochrane A, Barrett S (2001). Drummond's Grass from presumed extinct to perched on mountain summits. Landscope 16 pp 43-47.

Publications and Information Resources

Managing Farm Bushland - A Manual For The New England Tablelands of NSW.

World Wide Fund manual aims to assist land holders/ managers to actively manage and conserve remaining remnant vegetation for the long term. The Manual is designed for the New England region, however many general principles can be applied to or adapted for use in other areas. Cost $5Aud. PO Box 528, Sydney NSW 2001. Ph 02 6772 7480 / Email: wwfaus@ozemail.com.au

Environment Encyclopedia & Directory 2001

Revised and expanded, 600 pages detailing global environment movement. An A-Z section of key terms, alpha listed by country, government and non-governmental organisations, extensive index lists environmental organisations, pollution maps, etc. Cost is $825Aud. Asia Pacific Infoserv, GPO Box 2987, Sydney, 1043 Australia E-mail: aapi@aapi.com.au
Tel: 61 2 4934 6290 Fax: 61 2 4934 3692

Rivers as Ecological Systems: The Murray Darling Basin

Ecology of rivers in Murray-Darling Basin (Aust.). Foundation knowledge on relationships between riverine ecology and river flow. Summarises 1,000 papers, books/ reports; draws on expert opinion of 30 river scientists; describes link between river flows, sediment/nutrient transport, river channel forms, river/floodplain habitats, plants and animals. 150 colour plates, 40 maps/diagrams. Cost $60 Aud.
Ph. 1 800 645 051 or Email: sales@publish.csiro.au
Web site: www.publish.csiro.au

101 Forest Fungi of Eastern Australia

CD ROM contains 101 fungi commonly occuring in eastern Australia. Interactive ID key, designed for beginners to advanced students. Large library of colour images with outlining characteristics/notes. Published by Australian Biological Resources Study. Cost $99Aud. Ordering: KBS 40 Seaview St Brighton QLD 4017 Australia. Ph 07 3869 0994.
Website: http://www.kbs.com

Research Roundup

Auld, TD & Denham, AJ (2001). Predispersal seed predation in shrubs of *Grevillea* (Proteaceae) from SE Australia. *Australian Journal of Botany* 49, p17-21.

Auld, TD & Denham, AJ (2001). The impact of seed predation by mammals on post-fire seed accumulation in the endangered shrub *Grevillea caleyi* (Proteaceae). *Biological Conservation* 97, p377-385.

Bhuju, DR, & Ohsawa, M (2001). Patch implications in the maintenance of species richness in an isolated forest site. *Biological Conservation* 97.

Briggs, SV (2001). Linking ecological scales and institutional frameworks for landscape rehabilitation. *Ecological Management & Restoration* 2, p28-34.

Burns, A & Ryder, DS (2001). Potential for biofilms as biological indicators in Australian riverine systems. *Ecological Management & Restoration* 2, p53

Enright, NJ & Kintrup, A (2001). Effects of smoke, heat and charred wood on the germination of dormant soil-stored seeds from a *Eucalyptus baxteri* heathy-woodland in Victoria, SE Australia. *Austral Ecology* 26, p132-141.

Funes G, Basconcelo S, Díaz S, & Cabido, M (2001). Edaphic patchiness influences grassland regeneration from the soil seed-bank in mountain grasslands of central Argentina. *Ausral Ecolog 26*, p205-212

Lahav-Ginott S, Kadmon R & Gersani M (2001). Evaluating the viability of *Acacia* populations in the Negev desert: a remote sensing spproach. *Biological Conservation* 97, p127-137.

McDougall, KL (2001). Colonisation by alpine native plants of a stabilised road verge on the Bogong High Plains, Victoria. *Ecological Management & Restoration* 2, p47-52.

McIvor, JG (2001). Litterfall from trees in semiarid woodlands of north-east Queensland. *Austral Ecology* 26, p150-155.

McKinley, A & Stewart, B (2001). Flora biodiversity values in a degraded landscape - Byron Shire, northeast New South Wales. *Ecological Management & Restoration* 2, p67-69.

Noble, JC (2001). Lignotubers and meristem dependence in mallee (*Eucalyptus* spp.) coppicing after fire. *Australian Journal of Botany* 49, p31-41.

Pharo EJ & Beattie AJ (2001). Management forest types as a surrogate for vascular plant, bryophyte & lichen diversity. *Australian Journal of Botany* 49, p23-30.

Regional Group Reports

Sydney Region Report

Tracey Armstrong, Lotte von Richter
Mt Annan Botanic Gardens

Fungi revealed

On Saturday March 31st the ANPC invited the Sydney Fungal Studies Group to conduct a fungal survey of a remnant of Cumberland Plain Woodland at Mount Annan Botanic Garden. We got a very good turnout of about 40 people, half ANPC and half SFSG.

It was a lovely day for people. Unfortunately it wasn't a great day for fungi – it had been too warm and too sunny for too long. But we scoured the area and managed to scrape together about 40 collections. Frank Taeker of the SFSG will endeavour to identify these for us so that we have the beginnings of a species list for our Woodland. Over time, we hope to build up a comprehensive species list which may be of interest to other landholders of Cumberland Plain Woodland. We may even find some species which are restricted to this endangered ecological community; the problem will be identifying them, as fungi is not as well researched as other organisms.

There were some very interesting species collected including the rare *Polyporus hartmannii*, a woody fungus that looks a little like elk's horn; *Calvatia lilacinum*, a large purplish brown puffball about the size of an orange; and, a *Tulostoma sp.* The *Calvatia* is not particularly common and the *Tulostoma*, a puffball on a stick, is an arid country species which is quite exciting that they were found growing in our Woodland.

Bettye Rees of the SFSG gave practical tips for collecting fungi including useful accessories:- knife, trowel, GPS, notepad and pencil, fishing tackle box to store the fungi separately, and to note down the substrate (soil, wood etc). She also gave an overview of fungal taxonomy and some other techniques including taking spore prints. Spore prints are necessary to determine the colour of the spore which is a key characteristic for identifying the different genera. She commented that because so many of the fungi have yet to be identified, there could be some 'new' fungi in the Woodland.

Bettye is also the NSW Co-ordinator of the Fungimap program which is run jointly by the Royal Botanic Gardens, Melbourne and the Field Naturalists Club of Victoria. The program aims to map 150 distinctive and easily identifiable species of fungi around Australia. If you wish to become involved in this project contact: Fungimap, c/- National Herbarium of Victoria, Birdwood Ave, South Yarra Vic 3141.
Email: fungimap@rbgmelb.org.au.
Website: http://calcite.apana.org.au/fungimap
Contact Tracey Armstrong: Ph 02 4634 7939
tracey.armstrong@rbgsyd.nsw.gov.au

South West Slopes Region

Paul Scannell, Albury Botanic Gardens

Crimson Spider Orchid

The germination trials of seed at King's Park and Botanic Gardens, in Perth, W.A. have resulted in two seedlings successfully grown, using the mycorrhizal associate for *Caladenia concolor* (this was 5% of seed from a single capsule). These plants will become the backup for the small Albury population and may be cross pollinated by hand to obtain seed for future trials and possible reintroductions. The Recovery Plan will be revised and finalised within the next few months, as new actions are being carried out and the website address will hopefully be in the next issue of *Danthonia*.

Similar trials with *Caladenia rosella* at RBG (Melb) have shown increasing success and this information will be invaluable. Seed has been spread around the existing populations and numbers have increased.

Other news

Glen Johnson of the DNRE (Vic) conducted summer burns at Chiltern Box-Ironbark National Park two years ago. The broad results were prolific germination of pea species and high numbers of orchids in flower, with *Goodia* showing much higher germination rates.

A new multi-species recovery plan has been funded through NHT, as a project of the Dept. of Natural Resources and Environment in Victoria. A proposed "*Caladenia* Action Statement" is being passed around for comment at this stage. The recovery plan includes *Caladenia concolor* and Steve Clark from NSW NPWS, Queanbeyan will be involved, with planning already in place for the NSW population.

After extensive community consultation the targets for the Murray Catchment Management Board Management Plan are nearly finalised . They address soil acidity, salinity, conservation and water quality and will be a guide for conservation projects, revegetation works and local government land management, over the next 10 – 30 years. Management of rare and threatened species is prominent throughout the various sections of the plan.

Contact Albury Botanic Gardens office on 02 60 238 769, fax 02 60 416 527. E-mail: accgardn@albury.net.au.
Web site: www.albury.net.au/~accparks

(Continued from page 12)

Illawarra Regional Group

Paul Formosa, Natural Areas Coord., Wollongong City Council.

It was timely, with ANPC's 10th anniversary, to launch the Illawarra South Coast Regional group of the ANPC. The inaugural meeting on the 8th April at the Wollongong Botanic Garden, attracted representatives of various agencies and community organisations keen to participate in a regional approach to plant conservation.

Since the meeting a number of events have been held, with others in the planning stage. Our first event was a bus trip of Bushcare restoration sites promoted under the guise of a magical mystery tour - whilst wet weather took the magic out of the day, it never dampened the great spirit of community engagement on display at the various sites. A further two more tours are planned with the next on Sunday 5 August.

Of interest to ANPC members was our first Illawarra Regional Threatened Flora Recovery Team meeting also held at the WBG on 7th June. The purpose was to establish the recovery team, as well as discuss issues and priorities including community participation, and training, for the various species (*Ziera granulata, Irenepharsus trypherus, Daphnandra* sp, *Cynanchum elegans, Pimelia spicata, Pterostylis gibbosa*).

Thanks to all who attended our first meeting, and those that contribute to plant conservation in our region.

Contact details: Paul Formosa, 02 4225 2638.

Conferences/Workshops, etc

Western Australia State Heritage Convention
31 July - 2 August 2001
Information contact Kim Ramsay on (08) 9212 1125.
Email kim.ramsay@ntwa.com.au.

Sixth Australasian Bryophyte Workshop
September 20-26, 2001, Blue Mountains, NSW, Aust.
Contact details: Elizabeth Brown Ph (612) 02 9231 8139, Email: Elizabeth.Brown@rbgsyd.nsw.gov.au. Alison Downing Ph (612) 02 9850 8197. Email: adowning@ma.bio.mq.edu.au

2nd National Conference: Our Valuable Native Grasslands, Better Pastures Naturally
September 27th-28th at Dookie College, Victoria.
The Stipa Native Grasses Association. Contact details: Mike Byron at conference@stipa.com.au
Web site http://www.stipa.com.au/announce.html

2001Meeting of Ecological Society of Australia
University of Wollongong, 26th to 28th September 2001
Dr Kristine French, Ph: 61 2 4221 3655, Fax: 61 2 4221 4135
Email: kris@uow.edu.au
Website: http://www.uow.edu.au/science/biol/esa

Society for Growing Australian Plants - 21st Biennial Conference &Seminar: Australian Plants in a Changing World
29 September to 5 October 2001, Canberra
Contact, Hilary Merritt, PO Box 217, Civic Square ACT 2608, Ph. 02 6236 9317. Website: http://www.anbg.gov.au/sgap

2001 Southern Qld Biodiversity Recovery Conference
29 Oct to 2 Nov 2001. Crows Nest via Toowoomba Qld.
Contact Bruce Boyes Ph. 07 4698 1155.
Email: Bruce@crowsnestshire.qld.gov.au

5th Intl. Congress on Education in Botanic Gardens
29 September - 4 October 2002. Royal Botanic Gardens Sydney Australia. Contact Lucy Sutherland Botanic Gardens Conservation Intl. Tel: +44 (0) 20 83325953 Email: Lucy.Sutherland@bgci.rbgkew.org.uk

Electronic Addresses

What's Its Name?
Concise up-to-date database of Australian plant names.
Website: http://www.anbg.gov.au/win/index.html

Centres of Plant Diversity: A Guide and Strategy for Their Conservation-Volume 3: The Americas
Quality online publication. Info on regions of botanical importance, species therein, threats, indigenous and traditional uses, genetic uses, etc.
Website: http://www.nmnh.si.edu/botany/projects/cpd/

IUCN Cactus and Succulent Plant Specialist Group Magazine
Recently posted on the internet, also PDF format.
Website: http://wwwcjb.unige.ch/BVAUICN/BNL.htm

Forest Conservation Portal
Latest forest conservation news links. Database of forest resources, archives, interactive maps to build, science and advocacy. Website: http://forests.org/

Management Options for Carbon Sequestration in Forest, Agricultural & Rangeland Ecosystems
Info about carbon sinks in relation to changing land use in Aust. Website: http://www.greenhouse.crc.org.au

Earth Summit 2002
The next Earth Summit is in Johannesberg in 2002. Look at the latest developments, session proposals, join the update list. Website: http://www.earthsummit2002.org

Community Access to Natural Resources Information
Collaborative source of info on local environmental management. Used by schools, Landcare groups, industry. Website: http://www.canri.nsw.gov.au

The Eden Project - UK Biodomes
Once a quarry, it produces biomes from all corners of planet. The Eden Project also undertakes research into seed storage. Website: http//www.edenproject.com

New Zealand Department of Conservation - Recovery Plans Website. Website: http://www.doc.govt.nz

And finally....

Recovery Plans

An ANPC objective is to encourage and promote writing of Recovery Plans, for individual species, communities or ecosystems. We would like to hear from anybody involved in the production of Recovery Plans, to help us build up a reference base for use by staff and members. Copies of Recovery Plans, draft plans or those at public comment stage would also be extremely useful. Phone (02) 6250 9509, e-mail on: anpc@anbg.gov.au

Peer Group Review

Ecología Austral, journal of the Argentinean Ecological Society is seeking help for its peer review process. They need researchers with expertise in plant ecology. Journal is trilingual (Spanish, Portuguese, English), and peer review instructions are simple. Process is electronic. Contact: Dr. Jorge Rabinovich, Editor, Revista Ecología Austral, Calle 502, No. 1605 (1897) M. B. Gonnet Prov. de Buenos Aires, Argentina
Tel/Fax: (54)(221) 471-4762
E-mail: Ecol_Aus@netverk.com.ar

China's Threatened Species

The China Plant Specialist Group held a meeting in January 01 at the Institute of Botany in Beijing to finalise the China Plants Action Plan. China is home to 10% of the world's higher plants, making it the world's third most important country for plant biodiversity. Of approx. 30,000 native species, some 4-5,000 are estimated to be threatened. Contact Anna Knee: email alk@iucn.org
Ph. +41 (0) 22 9990153.

Master Workshops

A call for ideas regarding ANPC Master Workshops. We are keen to hear ideas and comments for general topics, course content etc. from members. If anybody wishes to air their views contact details are as follows: phone (02) 6250 9509,
Email on: anpc@anbg.gov.au
Ideas can be submitted by letter to:
ANPC Inc.,
GPO Box 1777 Canberra ACT 2601

Mundulla Yellows Request

Michele Adler – presenter of The Sunday Gardener on ABC Regional Radio - has a request from a listener who wants information on Mundulla Yellows disease, including:
- who is leading the research
- results of any research being done into the cause of MY
- areas where MY has been found
- if the disease is spreading
- any MY trials or treatments

Please contact Michele Adler via email: madler@unimelb.edu.au

Proposed Nature Reserve in Canberra

Yellow Box/Red Gum Grassy Woodland sites at Mt Majura, Mulligans Flat, and the Aranda Snow Gums site are proposed to be made part of the ACT's public land nature reserve. A draft Variation of the Territory Plan #182 is out until June 25th. Can be viewed on ACT Government website:
http://www.act.gov.au/tplan

ANPC Membership List

Please note: date in brackets indicates the member has joined or renewed for that year. Addresses and names of contact persons are available from the National Office. Memberships are valid for the calendar year only!

Corporate Members

ACT Parks and Conservation Service, ACT (2001)
Adelaide Botanic Gardens, SA (2001)
Albury Botanic Gardens, NSW (2001)
Alcoa of Australia Ltd., WA (2000)
Australian National Botanic Gardens, ACT (2000)
Aust Tree Seed Centre (CSIRO), ACT (2001)
Biodiversity Group - Environment Australia, ACT (2001)
Brisbane Botanic Gardens, Qld (1999)
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Centre for Mined Land Rehabilitation, Qld (2001)
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Coffs Harbour City Council, NSW (2001)
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Defence Estate Organisation, ACT (1998)
Dept of Conservation and Land Management, WA (2000)
Environment ACT, ACT (1999)
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Geelong Botanic Gardens - City of Greater Geelong, VIC (2001)
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Logan City Council, Qld (1998)
Macedon Ranges Shire Council, Vic (1999)
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Minerals Council of Australia, ACT (1999)
Mount Tomah Botanic Garden, NSW (1998)
North Forest Products, Tas (1998)
NSW National Parks & Wildlife Service, NSW (2001)
Olympic Coordination Authority, NSW (1998)
Pacific Power, NSW (2000)
Parks and Wildlife Commission, NT (2001)
Parks Australia-North, Christmas Island, Indian Ocean (1999)
Qld Parks and Wildlife Service, Qld (2001)
Queensland Herbarium, Dept of Environment & Herita, Qld (2001)
Randwick Council, NSW (1998)
Redland Shire Council, Qld (2001)
RGC Mineral Sands Ltd, WA (1998)
Roads and Traffic Authority, NSW (2001)
Royal Botanic Gardens Melbourne, Vic (2001)
Royal Botanic Gardens Sydney, NSW (2001)
Royal Tasmanian Botanical Gardens, Tas (2001)
Standing Committee on Forestry, ACT (2001)
Strathfield Municipal Council, NSW (2000)
Tasmanian Parks & Wildlife Service, Tas (2001)
The Australian Arid Lands Botanic Garden, SA (2001)
Townsville City Council, Qld (1999)
WMC Olympic Dam, SA (2000)
Wollongong Botanic Garden, NSW (2000)
Zoological Parks and Gardens Board of Victoria, Vic (2001)
Zoological Parks Board of NSW, NSW (2001)

International Associates

Canada
Canadian Wildlife Service
Canadian Botanical Conservation Network
Rare Plant Consortium
Roy L Taylor (2002)

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Suva City Council
South Pacific Regional Herbarium (2000)

Germany
Botanischer Garten und Botanisches

India
Indian Society for Conservation Biology
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Indonesia
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Eka Karya Botanic Garden
Indonesian Network for Plant Conservation

New Zealand
Auckland Plant Collections Network
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NZ Department of Conservation
Schl of Environmental & Marine Sciences (2001)
Wellington Plant Conservation Network

Solomon Islands
The Herbarium & Botanical Garden, Forestry Division

South Africa
John Donaldson (2001)
National Botanical Institute (2001)
SABONET

Sri Lanka
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Switzerland
Conservatoire et Jardin Botaniques
IUCN/ Species Survival Commission

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Botanic Gardens Conservation Intl
Royal Botanic Gardens Kew (2001)
PlantNet

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IUCN/SSC Reintroduction Specialist Group

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Georgia Endangered Plant Stewardship Network
Missouri Botanical Garden Library (1999)

Western Samoa
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Other Organisations

ARAZPA Inc, NSW (2001)
ASGAP, Qld (2001)
Aust. Assn of Bush Regenerators NSW (2001)
Australian Inland Botanic Gardens, Vic (2001)
Aust. Plant Society Nowra Grp NSW (2001)
Aust. Plant Society Nrthn Grp Tas (2000)
Aust. Plant Soc Newcastle Grp NSW (2000)
Aust. Plants Soc. Cent. West Grp, NSW (1999)
Aust. Plants Soc SW Slopes Grp NSW (2000)
Australian Plants Society NSW (1999)
Aust. Trust for Conservation Volun, Vic (2001)
Blue Mntns Wildplant Rescue Srvce, NSW (1999)
Brunswick Valley Heritage Park, NSW (2000)
Burnley College, Vic (1999)
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Greening Australia (ACT & SE NSW) (2001)
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Greening Australia Ltd, ACT (1999)
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Hunter Reg. Botanic Gardens, NSW (2000)
Indigenous Flora & Fauna Assn, Vic (2000)
Lismore Rainforest Bot Gardens, NSW (2000)
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Monarto Zoological Park, SA (2000)
Myall Park Botanic Garden Ltd., Qld (2001)
NSW Roadside Environment Comm, (2001)
Olive Pink Botanic Garden, NT (2001)
Pangarinda Arboretum Comm, SA (2000)
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Australian Network for Plant Conservation

Hosted by Southern Cross University, Centre for Plant Conservation Genetics

Third Plant Conservation Techniques Course

Lismore NSW
1 - 8 December 2001

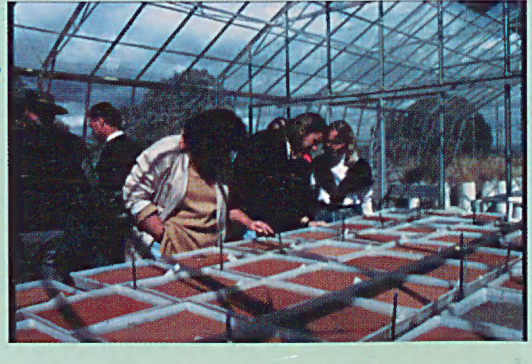
Nightcap National Park
Photo: Peter Egger - copyright

COURSE CONTENT

The course will comprise lectures, workshops, demonstrations and field trips. Topics to be covered include:

- principles and ethics of conservation
- levels of biodiversity
- assessing rarity
- restoration
- education, community awareness and partnerships
- gathering new information, monitoring and surveying
- conservation management techniques
- accessing existing information, databases and literature.

Previous participants described the course as "inspiring", "unique" and "invaluable".



ANPC training course participants involved in a demonstration.

WHO THIS COURSE IS FOR

This course is suitable for those involved or planning to be involved in practical plant conservation projects including:

- community volunteers
- community support staff
- land managers, farmers and graziers
- industry staff
- government staff
- botanic gardens staff
- facilitators and extension officers.

Participants will have the opportunity to learn from some of Australia's most eminent plant conservation experts.

Please contact ANPC at:
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